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Critical exponents in p-adic 4-model

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Abstract

We consider 4-model with O(N)-symmetry in d-dimensional p-adic space using the approach of renormalized projection Hamiltonians. Critical exponents ν and η are calculated up to three orders of perturbation theory using two types of expansions: (4 - d)-expansion and (α - 3/2d)-expansion, where α is a renormalization group parameter. Some resemblances and differences between the Euclidean and p-adic models are discussed. © 2006 American Institute of Physics.

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Keywords

Critical exponents, p-adic space, Renormalization group